Amendments to the Claims

1-4. (Cancelled)

5. (Currently Amended) A method of interference cancellation in a multiple access communication channel comprising:

receiving a signal including at least a first data component for a first channel within the multiple access communication channel and a second data component for a second channel within the multiple access communication channel on the communication channel;

determining a characteristic of one stage of the multiple access communication channel;

estimating an interference factor caused by the second data component received on the multiple access communication channel based upon an approximation of the characteristic and comprises applying a function to the characteristic and wherein the function comprises a piece-wise linear estimation of ~~the~~ a hyperbolic tangent;

using the interference factor to cancel the second data component from the signal; and

recovering the first data component from the signal.

6. (Previously Amended) A method of interference cancellation in a multiple access communication channel comprising:

receiving a signal including at least a first data component for a first channel within the multiple access communication channel and a second data component for a second channel within the multiple access communication channel on the communication channel;

determining a characteristic of one stage of the multiple access communication channel;

estimating an interference factor caused by the second data component received on the multiple access communication channel based upon an approximation of the characteristic and comprises applying a function to the

characteristic and wherein the function comprises a piece-wise linear estimation of a probability or error function;

using the interference factor to cancel the second data component from the signal; and

recovering the first data component from the signal.

7.-9. (Cancelled)

10. (Previously Amended) In a receiver including interference cancellation in a multiple access communication channel, the receiver adapted to receive a signal for the communication channel including a first data component for a first channel within the multiple access communication channel and a second data component for a second channel within the multiple access communication channel, a method of providing a data estimate comprising the steps of:

estimating a signal-to-noise ratio for the signal;

applying a function to the signal-to-noise ratio to determine an approximation of a soft data estimate caused by the second data component received on the multiple access communication channel on a power control group by power control group basis for each of the first data component and the second data component; wherein the function comprises a piece-wise linear estimation of the hyperbolic tangent

subtracting from the aggregate received signal the signal estimate involving soft data estimate of the second data component.

11-12. (Cancelled)

13. (Previously Amended) In a receiver including partial interference cancellation in a multiple access communication channel, the receiver adapted to receive a signal for the communication signal including a first data component for a first channel within the multiple access communication channel and a second data component for a second channel within the multiple access communication

channel, a method of providing a partial interference cancellation coefficient comprising the steps of:

estimating a first signal term and a second signal term of the signal; applying a function to a signal-to-noise ratio to determine an approximation of an intermediate parameter caused by the second data component received on the communication channel on a power control group by power control group basis wherein the function comprises a piece-wise linear estimation of a probability of error function, and

using the intermediate parameter to determine a partial interference cancellation coefficient.

14-16. (Cancelled)